Check Sheet

What is a check sheet?

A check sheet is one of the seven basic quality tools. Data collection can often become an unstructured and messy exercise. It is a simple form you can use to collect data in an organized manner and easily convert it into readily useful information. Data collection is important because it is the starting point for statistical analysis. The function of a check sheet is to present information in an efficient, graphical format. A check sheet is a table or a form used to systematically register data as it is collected. Check sheets help organize data by category. They show how many times each particular value occurs, and their information is increasingly helpful as more data are collected. Main applications of a check sheet include registering how often different problems occur and registering the frequency of incidents that are believed to cause problems.

A check sheet is used to:

- Clearly identify what is being observed. The events being observed should be clearly labeled. Everyone has to be looking for the same thing.
- Keep the data collection process as easy as possible. Collecting data should no become a job in and of itself. Simple check marks are the easiest.
- Group the data. Collected data should be grouped in a way that makes the data valuable and reliable. Similar problems must be in similar groups.
- Be creative. Try to create a format that will give you the most information with the least amount of effort.

Advantages of using a check sheet:

- Effective way of displaying data
- Easy to use
- Can identify the root cause of a problem
- A first step in the construction of other graphical tools
- Provides a structure for uniform data collection
- Can be used to substantiate or refute allegations

How to construct a check sheet:

- Clearly define what events (problem or process) are to be recorded. (Add a category of other to capture incidents not easily categorized into any of the specified groups.
- Define the period for data recording and suitable intervals. The time period should be representative (that is, a one day sample on Monday may not be representative of a typical day).
- Design the check sheet to be used during data recording, allocating space for recording, and for summarizing within the intervals and the entire recording period.

- Develop a check sheet that is easy to understand. All columns should be clearly labeled.
- Perform the data collection during the agreed period, ensuring that everyone understands the tasks and the events to be recorded.
- Analyze the data to identify events with unusually high or low occurrences.
- Train all those involved on gathering data. A uniform data collection technique is vital.
- Plot the information on a check sheet.

A word of warning:
When recommending the use of check sheets during data collection in root cause analysis, a word of warning is appropriate. If the categories of events you are recording in the data collection period have been meticulously defined and inserted into a check sheet, other significant occurrences may be overlooked.

One way of reducing the risk of making this mistake is to add a category termed "other", in which you can place everything that seems prudent to record but does not fit into one of the other categories. If "other" occurs frequently, make a note. There might be one or two categories that recur often and deserve to be added to the sheet as a specific category.

An example of the use of a check sheet (taken from Root Cause Analysis, by Anderson and Fagerhaug):

A book store located in a large shopping mall consistently achieved lower sales per day than budgeted. The staff noted that quite a few customers came into the store to browse, but left without buying anything. When considering this problem (not tapping the customer base potential there), a wide range of possible causes surfaced including:
- The customers did not find what they were looking for.
- The staff did not offer the necessary help.
- Sought items were temporarily sold out.
- Sought items were not carried by the store.
- Prices were too high.
- There was too long a line at the checkout counter.
- Certain types of credit cards were not accepted.
- Lighting was poor in some areas of the store.
- There were no places to sit and look through books before deciding to buy.

The difficultly in identifying the actual problem and how often it occurred make it difficult for the store personnel to implement any changes. Thus, during a two-week period, many of the customers leaving without making purchases were courteously asked why this happened. The responses were logged in a check sheet, shown below, and give a much clearer idea of where to start to improve the situation.

Cause of no purchase	Week 1	Week 2	Total number of occurrences per
Could not find item	IIIII IIIII IIIII II	IIIII IIIII IIIII IIIII	37
No offer of help	IIIII IIIII IIII	IIIII I	20
Item sold out	II	III	5
Item not carried	III	IIIII I	9
Prices too high	I		1
Line too long	I	III	4
Wrong credit cards	II		2
Poor lighting	IIIII II	IIIII IIIII II	19
No place to sit	II	IIII	6
Total number of causes per week	49	54	103